REMARKS

Claim 12 already includes the elements of Claims 6 and 7 – amend to clarify that claim 12 is directed toward statutory subject matter --indicated implement on a computer

Claim 13 amended to include subject matter of 18 and 19 like 6 and 7 above.

Claim 8, 20 amended for dependency

STATUS OF THE CLAIMS

[0001] Claims 1-22 remain in the case and stand rejected. Claims 1-22 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,815,005 (hereinafter "Oyanagi"). Claims 1 and 13 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,098,033 (hereinafter "Richardson"). Claims 2-12, and 14-22 are rejected under 35 U.S.C. §103(a) as being obvious in view of Oyanagi and Richardson. Applicants have amended Claims 1, 8, 12, 13, and 20. Claim 6, 7, 18, and 19 have been canceled. No new claims have been added.

TELEPHONE INTERVIEW

[0002] Applicants would like to thank Primary Examiner Frantz Coby for conducting a telephone interview with Applicants representatives David McKenzie and John Murray on January 31, 2006. In that interview, proposed amendments were discussed in view of Oyanagi and Richardson. These proposed amendments have now been formally submitted by this response. Applicants anticipate that these amendments place the application in condition for allowance. Primary Examiner Frantz Coby indicated that the amendment would be considered and that an updated search would be required.

REJECTION OF CLAIMS 1-22 UNDER 35 U.S.C. §102(b)

[0003] The Examiner rejected Claims 1-22 under 35 U.S.C. §102(b) in view of Oyanagi. Applicants have amended Claims 1 and 13 to clarify the distinguishing aspects of the present

invention over Oyanagi. Applicants submit that amended Claims 1 and 13 recite substantially the same subject matter.

[0004] Specifically, Claim 1, as amended recites:

> "receiving an incoming stream of text;
>
> **tokenizing the stream of text into individual words;**
> **constructing word patterns of one or more consecutive words from the individual words;**
> consulting a semantic network to automatically **find a match between** one or more word patterns in the incoming stream of text **and a word pattern in the semantic network**, such that each word in the incoming stream is searched once in the semantic network; and
> referencing a known object within the semantic network **based on an identified word pattern from the stream of text**, the known object identified by a word pattern of the semantic network."
> See Amended Claim 1 (emphasis added).

Amended Claim 1 includes the subject matter of canceled Claims 6 and 7. Claim 1 includes the limitations of "tokenizing the stream of text..." and "constructing word patterns..." The other functions of consulting and referencing are also amended to use the word patterns from the stream of text.

[0005] The Federal Circuit has made clear that "[a]nticipation under 35 U.S.C. §102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention." *Apple Computer, Inc. v. Articulate Systems, Inc.*, 234 F.3d 14, 20, 57 U.S.P.Q.2d 1057, 1061 (Fed. Cir. 2000). Furthermore, the "identical invention must be shown in as complete detail [in the prior art] as is contained in the . . . claim" of the present invention. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed.Cir.1989). Applicants submit that Oyanagi fails to teach each element recited in amended Claim 1.

[0006] The Examiner suggests that the elements of "tokenizing the stream of text..." and "constructing word patterns..." are taught in Oyanagi at Col. 5, line 44 – Col. 6 line 23, Col. 4 lines 45-48, 60-61. Applicants respectfully disagree.

[0007] Oyanagi teaches an improved semantic network that performs high-speed inferential retrieval processing on an artificial intelligence knowledge base system. *See* Oyanagi

Col. 2, lines 40-45. Knowledge data is arranged to form a semantic network. The knowledge data includes an object, an attribute, and a value. Oyanagi accomplishes its improvements by storing one knowledge base in main associative memory and specific knowledge data that strictly includes "is-a" attributes in a sub associative memory. In response to a question, Oyanagi simultaneously searches the main memory for an object identified in the question and the sub associated memory for an object that has an "is-a" attribute. *See* Oyanagi Col. 5, line 43 - Col. 7, line 3.

[0008] The teachings relied upon by the Examiner (Oyanagi at Col. 5, line 44 – Col. 6 line 23, Col. 4 lines 45-48, 60-61) to anticipate subject matter of Claims 6 and 7, explains how Oyanagi steps through satisfying a query "What does CLYDE have?" Oyanagi explains that associative memory for a "has" and an "is-a" relationship is searched. Results such as "ROBIN" are stored and fed back to the associative memory through the input data bus line. See Oyanagi Col. 6 lines 3-5. Based on the "is-a" result, another search replacing CLYDE with ROBIN can be conducted. This subsequent search also turns up no results. See Col. 6 line 22. Therefore, Oyanagi clearly teaches two cycles in the processing of a search query "What does CLYDE have?"

[0009] Oyanagi fails to teach "**tokenizing [a] stream of text into individual words.**" In Oyanagi the question "What does CLYDE have?" is the closest concept to a "stream of text." As explained below, Applicants assert that such a comparison is not possible due to the fundamental differences between a "stream of text" and a "question." However, presuming arguendo, that a "question" and "stream of text" are the same, Oyanagi fails to teach the function of tokenizing the "stream of text." Tokenizing is a term well known to those of skill in the art. Tokenizing means to take an input such as text and divide the input into discernable tokens. In the present invention, these tokens comprise the words in the stream of text. Applicants submit that the teaching in Oyanagi of taking a question and then searching a knowledge base for the answer, even multiple times, fails to teach dividing the question into a set of discernable tokens or words.

[0010] Furthermore, amended Claim 1 also recites **"constructing word patterns of one or more consecutive words from the individual words."** In other words, the individual words are taken and organized into word patterns based on the order of the words within the stream of text. Applicants find no teaching in Oyanagi that the words within the question are combined into word patterns that exist within the question or that those word patterns are used to find matches in the knowledge base. In fact, Oyanagi teaches against a search of the knowledge base with a word pattern because all teachings in Oyanagi refer to a single word with an associated relationship indicator such as "is-a," "has," and the like not a word pattern that originates in the stream of text.

[0011] Therefore, Applicants submit that Oyanagi fails to teach the elements of "tokenizing the stream of text..." and "constructing word patterns..." Consequently, Oyanagi fails to teach each element of amended Claim 1.

[0012] Finally, Applicants submit that Oyanagi fails to teach each element of amended Claim 1 because Oyanagi teaches searching of a knowledge base in response to questions rather than in response to a "stream of text" as recited in amended Claim 1. See Oyanagi Col. 5, lines 3-13. Applicants submit that a question and a "stream of text" are fundamentally different.

[0013] Applicants recognize that claims are to be given their broadest reasonable interpretation. MPEP §2111. However, "The words of a claim must be given their "plain meaning" unless they are defined in the specification. "[P]lain meaning" refers to the meaning given to the term by those of ordinary skill in the art." MPEP § 2111.01.

[0014] Applicants note that the broadest reasonable interpretation of "stream of text" does not include a question for a knowledge base as taught and suggested in Oyanagi. Those of skill in the art recognize the term "stream" as a term of art. A stream is: "A sequence of digitally encoded signals used to represent information in transmission." See http://www.atis.org/tg2k/_data_stream.html. This means the data is being received at a certain rate and the end of the stream is unknown. Furthermore, a stream typically has no predefined format. The stream is parsed and tokenized to derive the data.

[0015] In contrast, the questions of Oyanagi have a very rigid format and structure. The Oyanagi questions have follow the same structure. *See* Oyanagi Col. 2, line 4; Col. 5, lines 4, 15, 30, 44; Col. 7 line 2. The size and format of the question are unknown. These are interrogative sentences having one of two structures: "<verb/adverb>-Object-Attribute-Value?" or "<pronoun><verb/adverb>-Object-Attribute?" Oyanagi does not search the semantic network with EACH word of the question. Specifically, the <pronoun> and/or <verb/adverb> is omitted. Consequently, only the Object-Attribute or Object-Attribute-Value is used.

[0016] This means that a question in Oyanagi is not as flexible in the arrangement of data within the question. In the present invention, the data forming the words may include not delimiters or may be delimited simply by a space, in one embodiment. There is no requirement that a verb/adverb or attribute, such as "is-a" or "has," be included. Applicants submit that if a stream of text that can be processed by the present invention were provided to the Oyanagi apparatus, the Oyanagi apparatus would signal an error such as a syntax error because the format of the stream of text would be incorrect. Therefore, Applicants submit that a "stream of text" is fundamentally different from a question in Oyanagi.

[0017] Regarding Claim 12, Applicants submit that Claim 12 include substantially the same subject matter as amended Claim 1 and 13. Specifically, Claim 12 recites "tokenizing the stream of text...," "finding a match...," and "continually adding words of the stream of text to recognized word patterns..." Applicants submit that Claim 12 is allowable for at least the same reasons cited above regarding Claims 1 and 13.

[0018] Applicants submit that Oyanagi fails to teach or suggest a "stream of text," "tokenizing the stream of text..." or "constructing word patterns..." Therefore Applicants request that the rejection of Claims 1-5, 8-17, and 19-22 under 35 U.S.C. §102(b) in view of Oyanagi be withdrawn.

REJECTION OF CLAIMS 1 and 13 UNDER 35 U.S.C. §102(e)

[0019] The recent Office Action rejected Claims 1 and 13 under 35 U.S.C. §102(e) in view of Richardson. Applicants respectfully traverse this rejection.

[0020] Applicant respectfully asserts that Richardson fails to teach or disclose each element of the claimed invention as required under 35 U.S.C. §102(e). Applicants submit that Richardson fails to teach a "stream of text," "tokenizing the stream of text..." or "constructing word patterns..." as recited in amended Claims 1 and 13.

[0021] The recent Office Action asserts that Claim 1 is taught in Richardson at Col. 1, lines 57-59, Col. 3, line 62- Col. 4 line 1, Col. 2, lines 40-47, and Col. 4, lines 15-20, 55-61. Applicants respectfully disagree and assert that subject matter of amended Claims 1 and 13 is not even taught or suggested in Richardson.

[0022] Richardson in general teaches quantitative determination of paradigmatic, or "substitutional," similarity between a pair of words. See Richardson, Col. 1, lines 40-42. Richardson makes these determinations using a training phase and a similarity determination phase. See Richardson, Col. 1 lines 50-60. So, the purpose of Richardson is to find a substitutional similarity between two words. Richardson further explains that the salient semantic relation paths are derived from an automatically compiled lexical knowledge base. See Richardson Col. 3, lines 65-67. Richardson goes on to teach that the salient semantic relation paths are **derived from** the lexical knowledge base. *Id.* This teaches that the salient semantic relation paths are found in the lexical knowledge base.

[0023] Amended Claims 1 and 13 incorporate the subject matter of Claims 6, 7, and 18, 19 respectively. Therefore, Applicants submit that Richardson fails to teach the elements that originally were in canceled claims 6, 7, 18, and 19, namely "tokenizing the stream of text..." and "constructing word patterns...". Applicants respectfully request that the rejection of Claims 1 and 13 under 35 U.S.C. §102(e) be withdrawn.

REJECTION OF CLAIMS 2-12 and 14-22 UNDER 35 U.S.C. §103(a)

[0024] The recent Office Action rejected Claims 2-12 and 14-22 under 35 U.S.C. §103(a) in view of Oyanagi and Richardson. Applicants respectfully traverse this rejection.

[0025] To establish a *prima facie* case of obviousness, the combination of the prior art references must teach or suggest all the claim limitations. MPEP § 2142. Applicants submit that because Oyanagi and Richardson fail to teach or disclose each element of the amended independent Claims 1, 12, and 13, as explained above, Oyanagi and Richardson also fail to establish a *prima facie* case of obviousness. Claims 2-5, 8-11, 14-17, and 20-22 depend from the independent Claims 1 and 13 and therefore include all the limitations of these independent claims. Therefore, Applicants submit that Claims 2-11, and 14-22 are allowable for at least the same reasons as independent Claims 1, 12, and 13.

[0026] Applicants assert that because the Office Action has not provided evidence of a teaching or suggestion of "tokenizing the stream of text..." and "constructing word patterns...," the Office Action has also failed to provide evidence of why one of skill in the art would select the prior art references or combine them. Therefore, this further supports Applicants' assertion that Claims 2-5, 8-12, 14-17, and 20-22 are allowable under 35 U.S.C. §103(a) over the prior art of record.

AMENDMENTS

[0001] Claims 1, 12, and 13 have been amended to clarify the invention. Specifically, Claims 1 and 13 are amended to incorporate the subject matter of Claims 6-7 and 18-19, respectively. In addition, Claims 1 and 13 are amended to recite a matching based on "word patterns." Applicants submit that Oyanagi and Richardson fail to teach or disclose matching based on word patterns. Instead, Oyanagi teaches searches with a single word of the associative

memory for the particular relationship and Richardson teaches searching for relationships between a pair of words. Claims 8 and 20 were amended to resolve dependencies. Claim 12 was amended to clarify the patentable subject matter.

[0002] In view of the foregoing, Applicant submits that the application is in condition for immediate allowance. In the event any questions remain, the Examiner is respectfully requested to initiate a telephone conference with the undersigned.

Respectfully submitted,

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